

VIII.—*Descriptions of Aphides.* By FRANCIS WALKER, F.L.S.

[Continued from vol. ii. p. 431.]

56. *Aphis dirhoda*, n. s.

This species feeds on the rose with *Aphis Rosæ*, and is sometimes far more numerous than that species in the spring and in the autumn, but its appearance is less regular; it frequents various species of rose both wild and cultivated, such as *Rosa centifolia*, *R. canina*, *R. eglanteria*; and in the summer it migrates to different species of corn and of grass (*Secale*, *Triticum*, *Avena*, *Hordeum*, *Bromus*, *Dactylis*, *Holcus*, and *Poa*), and it fixes itself on the blades of these plants, whereas *A. Avenæ* prefers the flowers. *Aphidius Avenæ*, an *Allotria*, *Asaphes ænea*, and *Megaspilus Carpenteri*, are its parasites, and these will be more particularly noticed in another part of these descriptions.

The viviparous wingless female. This sometimes rests through a severe winter under the rose-leaves without being injured, and begins to multiply very early in the spring: it is oval, and pale greenish yellow: the feelers have pale brown tips, and are about one-fourth of the length of the body: the eyes are dark red: the mouth and the nectaries are pale yellow with brown tips, and the latter are about one-sixth of the length of the body: the tip of the abdomen is brown: the legs are shorter and more slender than those of *Aphis Rosæ*, and the feet are pale brown: it is also distinguished from that species by its paler colour, its shorter feelers, and its larger body; the two kinds may often be seen together on one rose-twig, each surrounded by its respective little ones.

The front is prominent in the middle between the eyes: the tubercles on which the feelers are seated are rather less developed than those of the preceding species; the fourth joint of the feelers is much shorter than the third; the fifth is shorter than the fourth; the sixth is not half the length of the fifth; the seventh is nearly as long as the third.

The viviparous winged female. While a pupa it much resembles the wingless female in colour: its wings are unfolded in April or May, and then it is pale green: the chest is buff; its lobes are pale brown: the feelers are brown, green at the base, and much shorter than the body; the fourth joint is shorter than the third, and the fifth is shorter than the fourth; the sixth is nearly half the length of the fifth; the seventh is a little shorter than the third: the eyes are dark brown: the mouth has a brown tip: the nectaries are about one-sixth of the length of the body: the legs are pale yellowish green and rather long; the feet and the tips of the thighs and of the shanks are brown: the wings are colourless,

and nearly twice the length of the body; the wing-ribs and the rib-veins are pale yellowish green; the veins are brown.

1st var. The feelers are black, and as long as the body: the nectaries are pale green with black tips, and about one-fifth of the length of the body. In the autumn.

2nd var. Pale yellowish green: the lobes of the chest and the breast are dark gray: the feelers are green at the base, and longer than the body: the other limbs are pale yellow: the tip of the mouth, the eyes, and the tips of the nectaries are black, and the latter are nearly one-fourth of the length of the body: the knees, the feet, and the tips of the shanks are black: the wing-ribs and the rib-veins are pale yellow; the wing-brands are pale brown, and the other veins are brown. In the autumn, when the winged females abound on the rose-leaf, and each of them is surrounded by a group of its white or pale green little ones.

Variation in the wing-veins. The second vein is forked, but the third is undivided.

The oviparous wingless female. This species in its nuptial state is born of the winged female during October and some part of November, and is very delicate and pretty: it has a pale lemon colour: the head is almost white: the eyes are dark red: the limbs are white: the feelers are blackish towards their tips: the tip of the mouth and the tips of the nectaries are black, and the latter are as long as one-fifth of the body: the knees and the tips of the shanks are pale brown; the feet are black: the hind-shanks are sometimes pale brown.

1st var. Green. 2nd var. Pale straw-colour. 3rd var. Buff. 4th var. Light buff varied with pale red. 5th var. Rose-colour. 6th var. Saffron. 7th var. Orange.

The winged male. It pairs with the oviparous female in October and November, and is buff: the head, the disc of the chest and that of the breast are brown: the abdomen has a black line along the back and a row of black dots on each side: the feelers are black, dull buff at the base, and much longer than the body: the fourth vein is much shorter than the third; the fifth is hardly shorter than the fourth; the sixth is less than half the length of the fifth; the seventh is nearly as long as the third: the mouth is pale buff; its tip and the eyes are black: the nectaries are pale buff with black tips, and one-fifth of the length of the body: the legs, especially the thighs, are pale yellow; the knees, the feet, and the tips of the shanks are black; the wing-ribs and the rib-veins are pale yellow; the wing-brands are pale brown; the other veins are brown.

1st var. Pale orange: the head, the disc of the chest and that of the breast are black: the feelers are pale orange towards the base: the eyes are dark red: the nectaries are dull brown, and as

long as one-fourth of the body ; the thighs excepting the base are black.

2nd var. The nectaries are yellow with black tips.

57. *Aphis Avenæ*, Fabr.

Aphis Avenæ, Fabr. Sp. Ins. ii. 386. 17 ; Syst. Ent. 736. 15 ; Ent. Syst. iv. 214. 21 ; Syst. Rhyn. 297. 21 ; Gmel. ed. Syst. Nat. i. 4. 2206. 5 ; Vill. Ins. 551. 50 ; Schrank, Faun. Boic. ii. 1. 104 ; Stewart, ii. 110 ; Macq. Ann. Sci. Nat. 1831, 468 ; Kalt. Mon. Pfl. i. 108. 6.

A. granaria, Kirby, Linn. Trans. iv. 238 ; Curtis, Journ. R. Agric. Soc. vi.

A. Hordei, Kyber, Germ. Mag.

A. cerealis, Kalt. Mon. Pfl. i. 16. 6.

Bromaphis, Amyot, Ann. Soc. Ent. 2^{me} série, v. 479.

This kind feeds on *Secale cereale*, *Triticum æstivum*, &c., *Avena sativa*, *Danthonia strigosa*, *Hordeum vulgare*, *H. murinum*, *Bromus mollis*, *B. secalinus*, *Dactylis glomerata*, *Holcus lanatus*, *Glyceria fluitans*, *Poa annua*, and on other grasses, and also on *Polygonum Persicaria*.

The viviparous wingless female. When young it is dull pale yellow : the feelers are shorter than the body : the mouth has a black tip, and reaches the base of the hind-legs : the nectaries have also black tips, and are as long as one-sixth of the body.

1st var. The body is red. 2nd var. The body is dull green : the hind-part of the abdomen is red.

When full-grown it is red : the feelers are black, and very nearly as long as the body ; the fourth joint is more than half the length of the third ; the fifth is much shorter than the fourth ; the sixth is hardly one-third of the length of the fifth ; the seventh is a little longer than the third, and about five times the length of the sixth : the front is convex in the middle, and has a very distinct lobe on each side, or in other words it is somewhat undulating, and has a projection in the middle and one on each side : the eyes and the mouth are black : the tip of the abdomen is compressed and curved : the nectaries are black, very slightly curved and tapering towards their tips, and between one-fourth and one-fifth of the length of the body : the legs are dull yellow and moderately long ; the knees, the feet, and the tips of the shanks are black ; the shanks are very slightly curved ; the fore-legs are not very much shorter than the hind-legs.

1st var. The body is green, and varieties also occur with every tint between this colour and red.

2nd var. The disc of the body is blackish.

3rd var. The legs are bright pale yellow.

4th var. The thighs are black from near the base to the tips.

5th var. The body is brown : the feelers are black, and longer than the body : the tip of the abdomen is yellow : the nectaries are black, and rather less than one-fourth of the length of the body : the legs are black ; the thighs from the base to the middle and the shanks except their tips are yellow.

6th var. The body is dark green : the feelers are dull green at the base and as long as the body : the mouth is green at the base : the legs are pale green ; the feet and the tips of the thighs and of the shanks are black.

Sometimes green and yellow are variously mixed together in the body ; sometimes it is dull yellow, or pale red, or red with the disc of the abdomen nearly black, and with the thighs black from the middle to the tips, or red with the head green, or green mottled with red, or nearly black, or with a slight metallic tinge. The young ones in the body are sometimes twenty or so in number and of various size : the tubercles which support the feelers are short ; the second joint of the feelers is much shorter and narrower than the first ; the third is much more slender than the second.

The viviparous winged female. It is brown : the lobes of the chest and a row of spots on each side of the abdomen are black : the feelers are black, and a little longer than the body : the mouth is yellow ; its tip and the eyes are black : the nectaries are black, and as long as one-fifth of the body : the tip of the abdomen is yellow : the legs are long and yellow ; the thighs, excepting the base, the feet, and the tips of the shanks, are black : the wings are colourless ; the wing-ribs and the veins are pale yellow ; the wing-brands are pale brown.

1st var. The body is reddish brown : the fore-border and the hind-border of the fore-chest are paler : the abdomen is dull yellowish green with a row of very small black dots on each side : the feelers and the eyes are black, and the former are a little longer than the body : the mouth is dull green with a black tip : the nectaries are a little more than one-fourth of the length of the body : the wing-brands and the veins are brown.

The thighs are of a deeper black and the shanks of a brighter yellow than those of the wingless female. The red colour of this species becomes much brighter when it is preserved in Canada balsam. The colour of the pupa is more often red than that of the wingless female, and the nectaries of the latter are somewhat shorter than those of the former.

2nd var. The body is green with a slight bluish tint : the disc of the head and that of the chest and of the breast are red : the mouth is dull green with a black tip : the nectaries are as long as one-fourth of the body : the thighs are green towards the base. The structure of the wings does not serve to distinguish this from the preceding species.

58. *Aphis Hieracii*, Schrank.

Aphis Hieracii, Schrank, Faun. Boic. ii. 121. 1233; Kalt. Mon. Pfan. i. 17. 7.

The following plants are the food of this species: *Hieracium sylvaticum*, *H. sylvestre*, *H. murorum*, *H. Pilosella*, *H. Sphondylium*, *Crepis tectorum*, and other species, *Carduus*, *Arctium Lappa*, *Ballota nigra*, *Cichorium Intybus*, *C. Endivia*.

The viviparous wingless female. When young it is yellow, elliptical, shining, and covered with short hairs: the feelers are black, pale yellow at the base, and longer than the body: the eyes are dark red: the mouth is pale yellow; its tip is black: the nectaries are dull yellow, and as long as one-sixth of the body; their tips are black: the legs are dull yellow, and moderately long; the feet and the tips of the shanks are black.

1st var. Pale red.

2nd var. Tinged with green: the feelers are shorter than the body.

3rd var. Feelers yellow; tips of the joints black.

When full-grown it is oval, slightly convex, smooth and shining, pale green, or pale reddish green, or reddish yellow: the feelers are very pale green or dull yellow with black tips, and a little longer than the body: the eyes are black: the mouth and the nectaries are pale yellow, or very pale green, with black tips; sometimes the latter are black excepting the base which is pale green; they are nearly as long as one-fourth of the body: the legs are pale yellow or very pale green; the feet and the tips of the shanks, and sometimes also the tips of the thighs, are black.

1st var. Bright yellow: the limbs are pale yellow; the tips of their joints and the nectaries are black.

The viviparous winged female. The pupa is grass-green, rather long and narrow: the feelers are black, green towards the base in the young ones, and a very little longer than the body: the mouth is dull green, and reaches near to the base of the hind-legs; its tip and the eyes are black: the nectaries are black and about one-sixth of the length of the body: the legs are dull green; the thighs are pale yellow towards the base; the feet and the tips of the thighs and of the shanks are black: the rudimentary wings are green: sometimes it is pale green, and its limbs are still paler: when full-grown the legs are black; the base of the thighs and the shanks except their tips are yellow.

When the wings are unfolded it is black and shining: the abdomen is dark green: the feelers are slender and much longer than the body: the mouth is pale yellow; its tip is brown: the nectaries are black, and nearly one-fourth of the length of the body: the legs are long and pale yellow; the thighs, except the base, the feet, and the tips of the shanks, are black: the wings

are colourless, and twice the length of the body ; the wing-ribs are pale yellow ; the wing-brands are pale brown ; the veins are brown.

1st var. While a pupa it resembles the wingless female in colour, but when the wings are unfolded it is dull green or greenish yellow : the discs of the head, of the chest and of the breast are black, and the abdomen has a row of black dots on each side : the feelers are black and as long as the body : the mouth is pale yellow ; its tip and the eyes are black : the legs are also pale yellow with black feet and shank-tips.

2nd var. The body is black : the fore-border and the hind-border of the fore-chest are green : the abdomen is green with black cross-bands, and has a row of black spots on each side : the feelers are a little longer than the body : the mouth is pale green ; its tip is black : the nectaries are about one-fifth of the length of the body : the legs are yellow ; the feet and the tips of the thighs and of the shanks, and nearly the whole of the hind-thighs are black.

Variation in the wing-veins. The lower branch of the first fork is wanting.

The front of the head is prominent in the middle, and has a tubercle on each side for the support of the feelers ; the first joint of these organs is longer and narrower than the tubercle on which it is seated ; the second is shorter and much narrower than the first ; the third is narrower than the second ; the fourth is shorter than the third ; the fifth is shorter than the fourth ; the sixth is about one-third of the length of the fifth ; the seventh is longer than the third : the tip of the abdomen is compressed and very slightly curved.

59. *Aphis Asteris*, n. s.

The viviparous wingless female. It is oval, slightly convex, dull olive-green, very much tinged with red especially round the border, covered with white beneath and sometimes above : it has a row of impressions on each side of the body, and these are most distinct towards the head : the feelers are black, yellow near the base, and longer than the body : the eyes are dark red : the mouth is dull yellow ; its tip is black : the nectaries are black, not curved, and about one-eighth of the length of the body : the legs are long and yellow ; the feet and the tips of the shanks and of the thighs are black. When young it is paler and more linear, and sometimes green. Abundant on *Aster tripolium*, on the shore near Lancaster and at Holywood, near Belfast, in the autumn.

1st var. Almost black, especially towards the fore-chest and the head.

The front is slightly concave in the middle, and convex on

each side at the base of the feelers, but having no tubercles : there is a very little bristle on each side of the front : the feelers are shorter than the body ; the fourth joint is hardly shorter than the third ; the fifth is much shorter than the fourth ; the sixth is less than half the length of the fifth ; the seventh is full thrice the length of the sixth : the back is adorned with six or eight irregular lines of black dots : the tip of the abdomen is compressed, but very short : the fore-legs are not much shorter than the hind-legs ; the shanks are very slightly curved.

60. *Aphis Lactucæ.*

Aphis Lactucæ, Linn. Syst. Nat. ii. 335. 14 ; Fabr. Ent. Syst. iv. 220. 52 ; Syst. Rhyn. 301. 52 ; Réaum. Ins. iii. t. 22. f. 3-5 ; Gmel. ed. Syst. Nat. i. 2205 ; Rossi, Faun. Etrusc. 264. 1401 ; Schrank, Faun. Boic. ii. 1. 120 ; Fonscol. Ann. Soc. Ent. x. 170. 10 ; Kalt. Mon. Pfl. i. 37. 25.

A. Ribis nigri, Sir Oswald Mosley, Gard. Chron. i. 684.

This species feeds on the following plants : *Sonchus oleraceus*, *S. asper*, *S. arvensis*, *Lactuca oleracea*, *Crepis tectorum*, *Picris echioides*, *Ribes nigrum*, *R. rubrum*, *R. grossularia*, *R. uva crispa*. Like *A. Berberidis* it differs from the other species of *Aphis* in having spindle-shaped nectaries.

The viviparous wingless female. This is hatched from the egg in March on *R. nigrum*, *R. grossularia*, and more rarely on *R. rubrum*. At this time and when very young it is light lively green, shining, half-transparent, rather long, slightly convex, and has three rows of minute tubercles along the back : the head is almost white : the feelers are white at the base, brown towards the tips, and rather more than half the length of the body : the eyes are dark red : the mouth and the nectaries are white with brown tips, and the latter are about one-seventh of the length of the body : the legs are almost white ; the shanks are bristly ; their tips and the feet are pale brown.

1st var. Dull dark green with still darker limbs : the feelers are a little shorter than the body, and the nectaries are about one-eighth of its length.

When full-grown it is deep grass-green, oval, and shining : the discs of the head, the chest, the breast and the abdomen are black, and there is a row of black spots along each side of the latter : the feelers are black, and as long as the body : the nectaries are black, spindle-shaped, and nearly one-fifth of the length of the body : the legs are black, long, and rather stout.

1st var. Green, dark green beneath, shaded with black or sometimes all black above : the feelers are a little longer than the body : the mouth is green with a black tip : the nectaries

are cylindrical and about one-sixth of the length of the body : the thighs are green towards the base.

2nd var. Pale green, elliptical, convex, smooth, and shining : the feelers are pale yellow : the tips of the joints are black : the nectaries are about one-sixth of the length of the body ; their tips are pale brown : the legs are pale yellow ; the feet and the tips of the shanks are black.

3rd var. Pale lively green, oval, not shining : the head and the limbs are white, but tinged with green : the feelers are shorter than the body ; the tips of their joints are sometimes black, as are also the tip of the mouth, the knees, the feet, and the tips of the shanks.

4th var. The body is of a fresh light green colour, but not shining ; it has a whitish tinge especially towards the head, and is sometimes mottled with white or with pale red : the feelers are pale yellow, and nearly as long as the body ; the tips of the joints are black : the eyes are dark red : the mouth is pale yellow with a black tip, so also are the nectaries, which are nearly one-fourth of the length of the body : the legs are pale yellow ; the feet and the tips of the shanks are black.

5th var. Of a clear white colour. In the autumn on *Crepis tectoria*.

The viviparous winged female. Green : the head and the fore-chest above are dark green : the disc of the middle chest and that of the middle breast are almost black, and there are black bands across the upper segments of the abdomen : the feelers are black, a little longer than the body, pale yellow towards the base which is dark green : the eyes are dark brown : the mouth is pale green with a black tip : the nectaries are pale green with brown tips, and about one-fourth of the length of the body : the legs are pale yellow, long and slender ; the feet and the tips of the thighs and of the shanks are brown : the wings are colourless, and about twice the length of the body ; the rib-veins are pale green ; the wing-brands are pale buff ; the veins are brown. On the sow-thistle at the end of April.

While a pupa it is green and rather flat : the feelers are dull pale green, and a little longer than the body ; the tips of the joints are black : the mouth is green with a black tip : the nectaries are spindle-shaped, rather dull buff, and about one-sixth of the length of the body : the legs are dull pale green ; the knees and the tips of the shanks are brown.

1st var. The limbs are blackish green.

The wings are unfolded in May, and the Aphis is then black and shining : the fore-chest is green with a black band across it : the abdomen is grass-green ; its disc is chiefly black : the feelers are a little longer than the body : the mouth is pale green with

a black tip : the nectaries are green, spindle-shaped, and about one-sixth of the length of the body ; their tips are black : the legs are pale yellow ; the feet and the tips of the thighs and of the shanks are black : the wings are colourless, and much longer than the body ; the wing-ribs and the wing-brands are pale green ; the veins are brown.

1st var. The mouth is pale yellow with a black tip : the nectaries are cylindrical ; their tips are brown : the feet and the tips of the thighs and of the shanks are also brown.

2nd var. The abdomen is green, and has a row of transverse black spots along the middle of the back, and a row of black dots on each side : the feelers are nearly as long as the body : the nectaries are black : the wing-ribs are pale yellow ; the wing-brands are dull buff.

3rd var. The legs are green ; the thighs except the base and the feet are black : the wing-brands are pale brown.

4th var. Green : the lobes of the chest are brown, and the breast is pale gray : there is a vivid green stripe along the middle of the abdomen, which is whitish beneath : the feelers are pale green towards the base : the eyes are darkred : the thighs are pale green ; the shanks are dull yellow ; their tips and the feet are black : the wing-ribs, the rib-veins, and the wing-brands are pale yellow ; the other veins are pale brown. In the autumn.

5th var. The nectaries are pale yellow, and rather more than one-fifth of the length of the body.

6th var. Black : the borders of the fore-chest, the fore-breast, and the abdomen are greenish yellow ; the back of the latter is varied with black : the nectaries are dark yellow, black towards the base and at the tips, and rather more than one-sixth of the length of the body : the thighs are pale yellow from the base to the middle, and black from thence to the tips ; the shanks are dark yellow, their tips and the feet are black : the wing-brands are brown.

It acquires wings on the lettuce at the end of May. Fourth generation ?

7th var. Pupa. Limbs blackish green.

8th var. Pupa. Pale yellow ; the feelers are as long as the body ; the tips of the joints and the whole of the latter joints are brown : the tips of the mouth, the tips of the nectaries, the feet, and the tips of the shanks are also brown. On the sow-thistle.

9th var. Black : the fore-chest is dark green ; its fore-border and its hind-border are light green : the abdomen is green, and has a large black spot near the tip of the back, and a row of black dots on each side : the nectaries are pale yellow with brown tips : the legs are pale yellow ; the feet and the tips of the thighs and of the shanks are black ; the wing-brands are pale brown.

10th var. Pupa. The body is rose-colour, mottled with yellow : the limbs are yellowish white with black tips : the rudiments of the wings are white with black tips.

11th var. The feelers of the pupa are black, pale yellow at the base : the nectaries are not more than one-fifth of the length of the body : the rudimentary wings are pale brown.

The winged insect is black : the fore-border and the hind-border and the underside of the fore-chest are green : the abdomen also is green, and has a row of black spots on each side of it, and a large black subquadrate spot on its disc : the mouth is pale green ; its tip is black : the nectaries are pale green, and as long as one-sixth of the body ; their tips are black : the legs are dull yellow ; the feet and the tips of the thighs and of the shanks are black : the wing-ribs and the rib-veins are pale yellow ; the brands and the other veins are pale brown.

The oviparous wingless female. This occurs in the beginning of November : it is green, shining, and long-elliptic : the abdomen is lengthened towards the tip : the feelers are yellow, black towards the tips, and nearly as long as the body : the eyes are dark red : the mouth is pale yellow with a black tip : the nectaries are yellow with black tips, spindle-shaped, and rather more than one-sixth of the length of the body : the legs are yellow ; the thighs are pale yellow, darker towards their tips ; the knees, the feet, and the tips of the shanks are black.

1st var. Body varied with darker green, and having three green lines along the back.

2nd var. Body yellowish green : the head, the chest, and the tip of the abdomen are very pale yellowish green : the feelers are black with the exception of the base, and a little longer than the body : the eyes are black : the nectaries are nearly one-fourth of the length of the body : the hind-shanks are dark yellow.

3rd var. The fore-chest is olive-colour : the head and a row of short bands on the abdomen are dark olive : the nectaries are also olive.

4th var. Pale green : the head, the chest, and the tip of the abdomen are pale yellow : the feelers are pale yellow ; the tips of some of the joints are black : the legs are also pale yellow ; the feet and the tips of the shanks are black.

5th var. Like the preceding, but with a lively green spot on the middle of the chest.

The winged male. It pairs with the oviparous female in November, and is black : the abdomen is yellowish brown with a row of black spots on each side : the feelers are rather thick till near their tips, and longer than the body ; the fourth joint is much shorter than the third ; the fifth is shorter than the fourth ; the sixth is about one-third of the length of the fifth ; the seventh is

usually longer, but sometimes a little shorter than the third : the mouth is yellow with a black tip : the nectaries are black, and nearly one-fourth of the length of the body : the legs are black ; the fore-thighs from the base to the middle, the other thighs at the base, and the shanks excepting their tips, are yellow : the wing-ribs are yellow ; the wing-brands are pale brown ; the veins are brown.

1st var. The abdomen is dark yellowish green ; there is a row of short black bands along its back and a row of black spots on each side : the mouth is black, but yellow towards the base : the legs are black ; the thighs are pale yellow at the base ; the shanks excepting their tips are dark yellow.

The front is slightly convex : the feelers are seated on short stalks ; the first joint is longer and more slender than the base which supports it ; the second is shorter and much narrower than the first ; the third is a little more slender than the second ; the fourth is much shorter than the third ; the fifth is shorter than the fourth ; the sixth is about half the length of the fifth ; the seventh is nearly as long as the third : the nectaries are spindle-shaped : the tip of the abdomen is compressed, and rather more than half the length of the nectaries : the fore-legs are much shorter than the hind-legs, whose shanks are slightly curved : the length of the furcations of the third vein is variable.

Variation in the wing-veins. The lower branch of the first fork of the third vein is wanting.

[To be continued.]

IX.—*Observations on Mr. M'Coy's description of the Tail of Diplopterus**. By Sir PHILIP DE MALPAS GREY EGERTON, Bart.

To the Editors of the Annals of Natural History.

GENTLEMEN,

I VENTURED to trespass on your columns in September last, to direct attention to what I considered an unfairness on the part of Mr. M'Coy towards my absent friend Professor Agassiz. In his reply to my observations Mr. M'Coy distinctly acknowledges the priority of Agassiz's observations, and allows that the knowledge of them "added considerably to the certainty which he felt of the correctness of the view he had put forward." The courtesy usually observed between investigators in a common field would have required this avowal to have been made in the first instance. Though tardy it is nevertheless complete. I re-

* Ann. and Mag. of Nat. Hist. Nov. 1848, p. 303.